HP StorageWorks

Novell NetWare connectivity for the EVA3000/EVA5000 Enterprise Virtual Array installation and reference guide

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About this Guide

This installation and reference guide provides information to help you:

- Connect your Host to an Enterprise Virtual Array storage systems
- Get pointers to the latest layered applications used with the Enterprise Virtual Array

"About this Guide" topics include:

- Overview
- Getting help

Overview

- Intended audience
- Related documentation

Intended audience

This book is intended for use by storage administrators who are experienced with the following:

- Host environments, such as Windows® 2000, Windows NT® , Windows Server 2003, Sun Solaris ™, OpenVMS, Tru64 Unix, HP-UX, IBM AIX, Linux®, Novell NetWare
- Enterprise Virtual Array (EVA5000 or EVA3000) storage systems

Related documentation

In addition to this guide, HP provides the following corresponding information:

- *HP StorageWorks Novell NetWare connectivity for Enterprise Virtual Array Release Notes*
- *HP StorageWorks Storage System Scripting utility reference guide*
- *HP StorageWorks Interactive Help for Command View EVA*

Conventions

Conventions consist of the following:

- Document conventions
- Text symbols

Document conventions

This document follows the conventions in Table 1.

Table 1 Document conventions

Convention	Element
Blue Text: Figure 1	Cross-reference links
Bold	Menu items, buttons, and key, tab, and box names
Italics	Text emphasis and document titles in body text
`Monospace` font	User input, commands, code, file and directory names, and system responses (output and messages)
`Monospace, italic` font	Command-line and code variables
Blue underlined sans serif font text http://www.hp.com	Web site addresses

Text symbols

The following symbols may be found in the text of this guide. They have the following meanings:

CAUTION:
Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

NOTE:
Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting help

If you still have a question after reading this guide, contact an HP authorized service provider or access our web site: http://www.hp.com.

HP technical support

Telephone numbers for worldwide technical support are listed on the following HP web site: http://www.hp.com/support/. From this web site, select the country of origin.

NOTE:
For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage web site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at: http://www.hp.com/country/us/eng/prodserv/storage.html. From this web site, select the appropriate product or solution.

HP authorized reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- Elsewhere, see the HP web site for locations and telephone numbers: http://www.hp.com.

1 Host connectivity

This guide provides host connectivity information and links to components you need to support your operating system with an Enterprise Virtual Array storage system. The following topics are covered:

- Downloading Fibre Channel adapter firmware
- Driver files and parameters
- Installing Novell NetWare drivers
- Operating system multipathing
- Using the Storage System Scripting utility

Downloading Fibre Channel adapter firmware

Supported Fibre Channel adapters (FCAs) must be installed in to host server in order to communicate with the Enterprise Virtual Array. You can download the latest version of the Fibre Channel adapters at the following web site:

http://h18006.www1.hp.com/storage/saninfrastructure.html

Refer to the host-specific release notes for a list of supported Fibre Channel adapters.

Driver files and parameters

The software kit that is included with the FCA contains the latest version of the FCA software files at the time of shipment. Software files are updated periodically and can be obtained at: http://h20000.www2.hp.com/bizsupport/

You can load the `QL2300.HAM` driver with optional switches to modify driver functionality. Command examples for both single path and multiple path follow:

- Single Path:
  ```
  Load QL2300.HAM Slot=2/Luns/allpaths/Portnames/startunit
  ```
- Multiple Path:
  ```
  Load QL2300.Ham Slot=2/luns/allpaths/portnames
  ```

Installing Novell NetWare drivers

NOTE:

The QL2300 HAM Driver may not be compatible with NetWare versions earlier than 5.x.

To install the NetWare driver in a previously installed Netware 5.1 or 6.x system, perform the following steps:

1. Enter the following command from the console screen.:
   ```
   LOAD HDETECT
   ```

2. Select **Continue** from the **Options** menu and press **Enter.**
3. Select **Modify** from the **Options** menu and press **Enter.**
4. Press **Enter** to **Select** and **View** with the drivers highlighted.
5. Select **Modify** and press **Enter** in the **Additional Driver Options** menu.
6. Press **Insert** or **INS** on your keyboard to add a new driver.
7. Press **Insert** or **INS** on your keyboard to add an unlisted driver.
8. Perform one of the following actions:
   - If you have the HAM driver and DDI file on a floppy disk, press **Enter**.
   - If you have the HAM driver and DDI file on another media such as a CD–ROM directory or a drive, Press **F3** and specify the path to the files. A file specification can be similar to the following:
     `C:\nwserver\`
9. Select **Modify** and press **Enter** when the QL2300 properties are displayed.
10. Select **Return to Driver Summary** and press **Enter** when the **Additional Drivers** screen is displayed.
11. Select **Continue** from the **Options** menu and press **Enter** to load the driver.
12. Select **Continue** from the **Protocol Options** menu to exit.

NOTE:

If you have a Proliant server, ensure that CPQSHD.CDM is later than 2.0.

Operating system multipathing

Secure Path or multipathing provides a multiple-path environment for your operating system. More information about Secure Path or multipathing is available at one of the following web sites:

- For Secure Path: http://h18006.www1.hp.com/products/sanworks/secure-path/index.html
- For Multipathing: http://h18006.www1.hp.com/products/sanworks/multipathoptions/index.html

Using the Storage System Scripting utility

The HSV controllers can be configured with the Storage System Scripting utility (SSSU) as an alternative to Command View EVA. The SSSU is a Command Line Interface (CLI) that issues commands directly to the controller. You can locate the SSSU and the *HP StorageWorks Storage System Scripting Utility Reference Guide* at: http://h20000.www2.hp.com/bizsupport/TechSupport/ProductList.jsp?locale=en_US&taskId=135&prodSeriesId=435210&prodTypeId=12169

2 Testing connections to the Enterprise Virtual Array

This chapter describes how to test connections between the operating system host server and the Enterprise Virtual Array. Virtual disks are set up and presented to your host server in order to test the connectivity and to begin using the disks. Topics in this chapter include the following:

- Adding hosts to the Enterprise Virtual Array
- Creating and presenting virtual disks
- Verifying virtual disks from the host
- Configuring virtual disks from the host

Adding hosts to the Enterprise Virtual Array

You can add a host using Command View EVA. You must add each Fibre Channel adapter installed in the host system in order for the host to work with the Enterprise Virtual Array. Use the following procedure to add hosts:

1. Collect information on World Wide Names (WWNs) for each FCA on your server. You need this information when choosing the host FCAs in Command View EVA.

NOTE:

Adding hosts through the Command view EVA software consists of adding each FCA adapter installed in the host. When you add the first adapter, you use the Add Host function, but when you add subsequent adapters, you use the Add Port function. Ensure that you add a port for each active FCA.

2. Add the host using Command View EVA.
3. Ensure that the host FCAs have been added by inspecting the Host folder in the Navigation tree of Command View EVA.
4. Use `Unknown`as the operating system. There is no Novell NetWare operating system selection.

NOTE:

For more information on using Command View EVA, refer to *HP StorageWorks Interactive Help for Command View EVA.*

Using the CFG.NLM utility to determine WWN Numbers

The CFG.NLM utility is an optional method to determine WWN numbers. To use the CFG.NLM utility, perform the following steps:

1. Follow steps 1 and 2 in Section 1.6.
2. Copy the CFG.NLM utility from the drivers directory to the system directory of the server. From the console, enter the following command:
   ```
   cfg/I
   ```
3. Go to the Logger screen and copy the WWN numbers displayed.
4. Follow steps 3 and 4 in section 1.6

Creating and presenting virtual disks

Use the following procedure to create and present additional virtual disks to the host servers:

1. Create a virtual disk on the Enterprise Virtual Array using Command View EVA.
2. Set values for the following parameters:
   - Virtual disk name
   - Vraid level
   - Size
   - Present to host (the host you just created)
3. Select a LUN number if you chose a specific LUN on the Virtual Disk Properties page.

Verifying virtual disks from the host

With Novell NetWare, you may restart the operating system for new virtual disks to be accessible. If you choose not to restart the operating system, you must manually scan for all new devices and all LUNs. To manually scan for devices and LUNs, enter the following commands:

```
Scan for new devices
Scan all LUNs
List devices
```

If you are unable to access the virtual disk, check the following items:

- Verify all cabling to the switch, Enterprise Virtual Array, and host.
- Verify all firmware levels (check the Enterprise Virtual Array QuickSpecs and associated release notes for details).
- Ensure you are running a supported version of the host operating system (see the release notes included with this kit).

Configuring virtual disks from the host

After you have set up the virtual disks on the Enterprise Virtual Array and have rescanned or restarted the host, you need to follow the host-specific conventions for configuring these new disk resources. Refer to the documentation that came with your server for specific instructions on setting up disk resources.

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